

WHAT IS CLAIMED IS:

1 1. In a networked data processing system comprising one or more host
2 servers, a switching component, and a data storage component, a storage access method
3 comprising:
4 receiving a user-originated request for data storage, the request including a
5 service policy, the service policy being associated with one or more data storage performance
6 criteria;
7 identifying a data store from among a pool of data stores defined in the data
8 storage component;
9 identifying a port on the data store by applying a rule to the one or more data
10 storage performance criteria;
11 communicating with a data storage agent to establish a data path within the
12 data storage component for data communication between the port and the data store, the data
13 storage agent being one of a plurality of data storage agents that manage portions of the data
14 storage component;
15 identifying a network path for data communication between a host server that
16 is identified in the user-originated request and the port; and
17 communicating with a network agent to allocate the network path, the network
18 agent being one of a plurality of network agents that manage portions of the network storage
19 component.

1 2. The method of claim 1 wherein the port the step of applying a rule to
2 the one or more data storage performance criteria produces a bandwidth metric, wherein the
3 port is characterized by the bandwidth metric.

1 3. The method of claim 2 wherein the network path has a bandwidth
2 metric that is greater than or equal to the bandwidth metric of the port.

1 4. The method of claim 1 further comprising communicating with a host
2 agent to allocate resources on the host server that is identified in the user-originated request,
3 the host agent being one of a plurality of host agents that manage the one or more host servers.

1 5. The method of claim 1 wherein the service policy is further associated
2 with one or more security criteria, wherein the step of identifying a network path includes
3 applying a second rule to the one or more security criteria to determine one or more security
4 parameters, wherein the network path is identified based on the one or more security
5 parameters.

1 6. A storage service manager comprising a processing component and
2 computer program code for execution by the processing component, the program code
3 configured to operate the processing component to perform method steps of:
4 receiving a user-originated request for data storage, the request including a
5 service policy, the service policy being associated with one or more data storage performance
6 criteria;
7 executing a rule to identify a suitable data store from among a pool of data
8 stores defined in a data storage component, the rule comprising an evaluation of the one or
9 more data storage performance criteria, including identifying a port based on the rule;
10 communicating with a data storage agent to establish a data path within the
11 data storage component for data communication between the port and the data store, the data
12 storage agent being one of a plurality of data storage agents that manage portions of the data
13 storage component;
14 identifying a network path for data communication between a host server that
15 is identified in the user-originated request and the port; and
16 communicating with a network agent to allocate the network path, the network
17 agent being one of a plurality of network agents that manage portions of a network storage
18 component.

1 7. The storage service manager of claim 6 wherein the port is
2 characterized by a bandwidth metric that is determined by applying the rule to the one or
3 more data storage performance criteria.

1 8. The storage service manager of claim 7 wherein the network path is
2 characterized by a bandwidth metric that is greater than or equal to the bandwidth metric of
3 the port.

1 9. In a networked data processing system comprising one or more host
2 servers, a switching component, and a data storage component, a storage access method
3 comprising:
4 receiving a user-originated request for data storage, the request including a
5 service policy, the service policy being associated with one or more data storage performance
6 criteria and with one or more security criteria;
7 identifying a data store from among a pool of data stores defined in the data
8 storage component based on a first rule comprising an evaluation of the one or more data
9 storage performance criteria;
10 communicating with a data storage agent to establish a data path within the
11 data storage component for data communication between the data store and a port on the data
12 store, the data storage agent being one of a plurality of data storage agents that manage
13 portions of the data storage component;
14 identifying a network path for data communication between a host server that
15 is identified in the user-originated request and the port, based on a second rule comprising an
16 evaluation of the one the one or more security criteria; and
17 communicating with a network agent to allocate the network path, the network
18 agent being one of a plurality of network agents that manage portions of the network storage
19 component.

1 10. The method of claim 9 wherein the port is identified based on a
2 bandwidth metric that is determined by evaluating the first rule.

1 11. The method of claim 9 wherein an evaluation of the second rule
2 produces one or more security criteria, wherein the network path is identified based on the
3 one or more security criteria.

1 12. The method of claim 9 wherein the port is identified based on a
2 bandwidth metric that is determined by evaluating the first rule and the network path is
3 characterized by having a bandwidth metric that is greater than or equal to the bandwidth
4 metric of the port.

1 13. In a networked data processing system comprising one or more host
2 servers, a switching component, and a data storage component, a storage service manager
3 comprising a processing component and computer program code for execution by the
4 processing component, the program code configured to operate the processing component to
5 perform method steps of:

6 receiving a user-originated request for data storage, the request including a
7 service policy, the service policy being associated with one or more data storage performance
8 criteria and with one or more security criteria;

9 identifying a data store from among a pool of data stores defined in the data
10 storage component based on a first rule comprising an evaluation of the one or more data
11 storage performance criteria;

12 communicating with a data storage agent to establish a data path within the
13 data storage component for data communication between the data store and a port on the data
14 store, the data storage agent being one of a plurality of data storage agents that manage
15 portions of the data storage component;

16 identifying a network path for data communication between a host server that
17 is identified in the user-originated request and the port, based on a second rule comprising an
18 evaluation of the one the one or more security criteria; and

19 communicating with a network agent to allocate the network path, the network
20 agent being one of a plurality of network agents that manage portions of the network storage
21 component.

1 14. The computer program of claim 13 further configured to operate the
2 processing component to perform a method step of evaluating the second rule to produce at
3 least one security parameter, wherein the network path is identified based on the at least one
4 security parameter.

1 15. The computer program of claim 14 wherein the at least one security
2 parameter includes one of a port zoning parameter and a WWN (world-wide name) zoning
3 parameter.

1 16. The computer program of claim 13 further configured to operate the
2 processing component to perform a method step of evaluating the first rule to produce a
3 bandwidth metric, wherein the bandwidth metric is used to identify the port on the data store.

1 17. The computer program of claim 16 further configured to operate the
2 processing component to perform a method step of evaluating the second rule to produce at
3 least one security parameter, wherein the network path is identified based on the at least one
4 security parameter.

1 18. The computer program of claim 17 wherein the at least one security
2 parameter includes one of a port zoning parameter and a WWN (world-wide name) zoning
3 parameter.

1 19. In a networked data processing system comprising one or more host
2 servers, a switching component, and a data storage component, a storage access method
3 comprising:
4 receiving a user-originated request for data storage, the request comprising a
5 service policy, the service policy being associated with one or more security criteria;
6 based on some of the one or more security criteria, identifying a data store
7 from among a pool of data stores managed by the data storage component;
8 communicating with one or more data agents to allocate the data store;
9 based on some of the one or more security criteria, identifying a network path
10 between a host server and the data store, wherein the host server is identified in the user-
11 originated request; and
12 communicating with one or network agents to configure the switching
13 component to set up the network path.

1 20. The method of claim 19 further comprising communicating with a host
2 agent to configure the host server.

1 21. The method of claim 19 wherein the one or more security criteria
2 include a logical unit number (LUN) masking specification that identifies one or more LUN's
3 in the pool of data stores.

1 22. The method of claim 19 wherein the one or more security criteria
2 include a WWN (world-wide name) zone specification, wherein the network path is
3 identified based on the WWN zone.

1 23. The method of claim 19 wherein the one or more security criteria
2 include a port zone specification, wherein the network path is identified based on the port
3 zone.

1 24. In a networked data processing system comprising one or more host
2 servers, a switching component, and a data storage component, computer program code
3 configured to operate a processor to perform steps of:

4 receiving a user-originated request for data storage, the request comprising a
5 service policy, the service policy being associated with one or more security criteria;

6 identifying a data store from among a pool of data stores managed by the data
7 storage component;

8 identifying a port on the data store;

9 communicating with one or more data agents to set up the data store and the
10 port;

11 identifying a network path between a host server and the port on the data store,
12 wherein the host server is identified in the user-originated request; and

13 communicating with one or network agents to configure the switching
14 component to set up the network path,

15 wherein one or more of the steps of identifying include determining a security
16 parameter from the one or more security criteria and performing the identifying step using the
17 security parameter.

1 25. The computer program of claim 24 wherein the security parameter is a
2 LUN masking parameter, wherein the data store is configured in accordance with the LUN
3 masking parameter.

1 26. The computer program of claim 24 wherein the security parameter is a
2 port zoning parameter, wherein the network path is set up in accordance with the port zoning
3 parameter.

1 27. The computer program of claim 24 wherein the security parameter is a
2 WWN zoning parameter, wherein the network path is set up in accordance with the WWN
3 zoning parameter.